

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method of determining the ~~level~~ relative levels of saturated fatty acids ~~relative to the level of~~ and unsaturated fatty acids in bovine milk [[by]] obtained from one or more cows:

(a) ~~determining the  $\beta$ -casein genotype of two or more cows by~~ testing genetic material of ~~each cow~~ the one or more cows for the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67 or DNA encoding  $\beta$ -casein having a histidine residue at position 67 of the one or more cows;

~~(b) analyzing the genotype test results from step (a) to determine the proportion of cows that have DNA encoding  $\beta$ -casein having a proline residue at position 67 and the proportion of cows that have DNA encoding  $\beta$ -casein having a histidine residue at position 67; and~~

~~(c) using the results of the analysis of step (b) to determine the level of saturated fatty acids relative to the level of unsaturated fatty acids in milk obtainable from the cows~~

(b) identifying whether a cow or cows (i) will likely have a lower percentage of saturated fatty acids and a higher percentage of unsaturated fatty acids based on the presence of

DNA encoding  $\beta$ -casein having a proline residue at position 67 or (ii) will likely have a higher percentage of saturated fatty acids and a lower percentage of unsaturated fatty acids based on the DNA encoding  $\beta$ -casein having a histidine residue at position 67 for which genetic material was tested in (a); and

(c) obtaining milk from at least one of the one or more cows after step (b).

2. (previously presented) The method as claimed in claim 1, wherein the  $\beta$ -casein having a proline at position 67 includes one or more of  $\beta$ -caseins A2, A3, D, E and F.

3. (previously presented) The method as claimed in claim 2, wherein the  $\beta$ -casein having a proline at position 67 is  $\beta$ -casein A2.

4. (previously presented) The method as claimed in claim 1, wherein the  $\beta$ -casein having a histidine at position 67 includes one or more of  $\beta$ -caseins A1, B, and C.

5. (previously presented) The method as claimed in claim 4, wherein, the  $\beta$ -casein having a histidine at position 67 is  $\beta$ -casein A1.

6. (previously presented) The method as claimed in claim 1, wherein the level of short and medium chain saturated fatty acids having 6 to 14 carbon atoms in each chain (C6:0-

C14:0) is reduced compared with milk obtainable from all of the two or more cows.

7-8. (cancelled).

9. (previously presented) The method as claimed in claim 1, wherein the genetic material of the cows may be any tissue containing, or which contained, nucleated cells.

10. (previously presented) The method as claimed in claim 9, wherein the genetic material is obtained from blood, hair, or milk.

11-16. (cancelled)

17. (currently amended) A method of obtaining bovine milk from cows selected from a group of two or more cows having a predetermined which has an altered level of saturated fatty acids relative to the level of and unsaturated fatty acids [[by]] relative to a bovine milk obtained from the group of two or more cows:

(a) ~~determining the  $\beta$ -casein genotype of cows by~~ testing genetic material of each cow from the group for the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67 or DNA encoding  $\beta$ -casein having a histidine residue at position 67;

(b) ~~determining the proportion~~ selecting a first number of cows that have DNA encoding  $\beta$ -casein having a proline residue at position 67 ~~and the proportion~~ relative to a second

number of cows that have DNA encoding  $\beta$ -casein having a histidine residue at position 67 that are required to provide the predetermined level of that will likely alter the level of saturated fatty acids relative to the and level of unsaturated fatty acids in milk obtained from the cows relative to the milk obtained from the group of two or more cows; and

~~(c) using the genotype test results from step (a) to select cows to give the proportions of cows determined in step (b); and~~

[[ (d) ]] (c) milking the selected first number and second number of cows to give milk having the predetermined altered level of saturated fatty acids relative to the and altered level of unsaturated fatty acids.

18. (previously presented) The method as claimed in claim 17, wherein the  $\beta$ -casein having a proline at position 67 includes one or more of  $\beta$ -caseins A2, A3, D, E and F.

19. (previously presented) The method as claimed in claim 18, wherein the  $\beta$ -casein having a proline at position 67 is  $\beta$ -casein A2.

20. (previously presented) The method as claimed in claim 17, wherein the  $\beta$ -casein having a histidine at position 67 includes one or more of  $\beta$ -caseins A1, B, and C.

21. (previously presented) The method as claimed in claim 20, wherein the  $\beta$ -casein having a histidine at position 67 is  $\beta$ -casein A1.

22. (previously presented) The method as claimed in claim 17, wherein the level of short and medium chain saturated fatty acids having 6 to 14 carbon atoms in each chain (C6:0-C14:0) is reduced compared with milk obtainable from both (i) cows that give milk having the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids and (ii) cows that do not give milk having the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids.

23. (previously presented) The method as claimed in claim 17, wherein the genetic material of the cows may be any tissue containing, or which contained, nucleated cells.

24. (previously presented) The method as claimed in claim 23, wherein the genetic material is obtained from blood, hair, or milk.

25. (new) A method of obtaining bovine milk from cows selected by genotype from a group of two or more cows:

(a) testing genetic material of each cow from the group for the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67 or DNA encoding  $\beta$ -casein having a histidine residue at position 67;

(b) selecting the cows that are more likely to have a lower percentage of saturated fatty acids and a higher percentage of unsaturated fatty acids based on the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67; and

(c) milking the selected cows to obtain a milk lower percentage of saturated fatty acids and a higher percentage of unsaturated fatty acids than a milk obtained from the group.